

Abstract

Method and apparatus for the determination of the contour
of sheet metal blanks

A certain percentage of sheet metal blanks (20) for cars are not bounded by straight cuts. These so-called contour blanks are cut by form dies to optimize material usage of sheet metal coils. During the tryout process of the press tools the final contour for the blanks is determined in an iterative process. The manually size-optimized blank contour has to be digitized for blank nesting and the construction of a form die to cut the blank from the coil in production. The present invention discloses a low-cost measurement system based on a digital camera (21). This camera allows taking pictures of blanks (20) on-site in the plant and process them off-line to regenerate geometrical information by use of photogrammetric principles. This method yields a significant reduction of lead-time by eliminating the need for a slow coordinate measuring machine (CMM).

(Fig. 1)